



Hospital Inpatient Care in Rhode Island, 2003: Most Common Diagnoses and Procedures

Jay S. Buechner, PhD,
Susan A. Oberbeck, MSW, MHA,
and Karen A. Williams, MPH

Patients who are treated as inpatients in the state's fourteen private acute-care hospitals are among the members of the population who are most severely impacted by illnesses and injuries. Data on these patients' care are useful for monitoring patterns of incidence and prevalence of acute and chronic health conditions in the state's population. Since 2000, the Office of Health Statistics of the Rhode Island Department of Health has summarized these data in a series of annual reports.^{1,2,3} This study presents excerpts from the most recent report, covering 2003, including data on the most commonly occurring principal diagnoses and most commonly performed procedures among hospital inpatients.⁴

Methods. Under licensure regulations, all acute-care hospitals in Rhode Island report to the Department of Health, Office of Health Statistics, a defined set of data items on each inpatient discharge. Acute-care general hospitals have been reporting since October 1, 1989; as of October 1, 1998, two psychiatric specialty hospitals and the inpatient rehabilitation facility began reporting. The analysis included discharges from January 1, 2003, through December 31, 2003, and employed data on the patient's sex, principal diagnosis, and procedures (up to 10 per discharge). Diagnoses and procedures are coded in the International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM), and were grouped as for published national data.⁵ Population-based rates for principal diagnosis groups were computed using 2000 Census data for the state and were adjusted for care provided to Rhode Island residents in Massachusetts hospitals. Comparative rates for the US for 2003 were provided by the National Center for Health Statistics.⁵

Results. The fourteen hospitals reported a total of 126,784 discharges with 689,249 days of care in 2003, for an average length of stay

of 5.4 days. The discharge rate per 10,000 population was 1,144.9, slightly lower (4.6%) than the discharge rate for the nation, 1,199.7 per 10,000 population). (Table 1)

The most common principal diagnosis group among hospital discharges in Rhode Island was heart disease, as was true for the nation, followed by deliveries. (Table 1) For both, the state's rates were lower than the corresponding national rates (7.6% and 14.0%, respectively). Rhode Islanders experienced higher discharge rates than the nation for the next two most common diagnosis groups, psychoses (55.1% higher) and malignant neoplasms (8.9% higher). Among the six next-ranking diagnosis groups, the discharge rate for the state was higher than for the nation only for chronic bronchitis (24.7% higher). For pneumonia, fractures, and cerebrovascular disease, the state's rates were lower than the nation's, by 9.1%, 12.7%, and 12.0%, respectively. The state and national discharge rates were similar for complications of surgical and medical care and for osteoarthritis and allied disorders.

Among all discharges from Rhode Island hospitals in 2003, 60.8% underwent one or more surgical or major diagnostic procedures. The most commonly performed procedures were those in the group arteriography and angiocardiology. (Table 2) More than twice as many of these procedures were performed than the next-ranking

Table 1.

Hospital Inpatient Discharges with Most Common First-Listed Diagnoses, per 10,000 Population, Rhode Island and United States, 2003

First-Listed Diagnosis	Rate per 10,000 population	
	Rhode Island	United States
All conditions	1,144.9	1,199.7
Heart disease	141.9	153.5
Deliveries	119.5	138.9
Psychoses	85.0	54.8
Malignant neoplasms	47.7	43.8
Pneumonia	43.7	48.1
Fractures, all sites	31.7	36.3
Complications of surgical and medical care	31.3	30.2
Cerebrovascular disease	29.3	33.3
Chronic bronchitis	22.7	18.2
Osteoarthritis and allied disorders	22.4	21.5

— Health by Numbers

procedure, repair of obstetric laceration. Three other heart procedures, cardiac catheterization, balloon angioplasty, and insertion of coronary artery stents, were among the ten most common procedures performed.

Procedure patterns were different for males and females. For females, three of the ten most commonly performed procedures were related to childbirth, including repair of obstetric laceration, cesarean section, and medical induction of labor. For males, five of the ten most common procedures were procedures on the heart. In addition to the four appearing in the overall ranking, coronary artery bypass grafts were common procedures among males.

Discussion. The patterns of utilization of inpatient care in Rhode Island during 2003, as exhibited in the data on diagnoses and procedures, reflect the major health conditions affecting the state's population: heart disease, cancer, stroke, pneumonia, injury, mental illness, and childbirth. Among the most commonly reported principal diagnosis groups, Rhode Island's discharge rate is substantially higher than the national rate for psychoses. A more detailed analysis of discharges with diagnoses of mental illness and substance abuse is in progress.

Because of the breadth of information contained in the patient-level data on hospital inpatients that are submitted to the Department of Health, these data have been widely used to investigate issues and patterns in the state's health care system. Hospital inpatients reflect many of the major health

conditions in the state's population, so the data also have potential value in the area of public health surveillance and evaluation. By summarizing these data in a consistent format, the Department of Health's annual reports on the hospital discharge database are a key step in the development of the public health uses of these data.

Jay S. Buechner, PhD, is Chief, Office of Health Statistics, and Assistant Professor of Community Health, Brown Medical School.

Susan A. Oberbeck, MSW, MHA, is a consultant to the Office of Health Statistics.

Karen A. Williams, MPH, is Public Health Epidemiologist, Office of Health Statistics.

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Table 2.
Most Commonly Performed Procedures, Hospital Inpatients, by Gender,
Rhode Island, 2003

Procedure Rank	All Patients	Females	Males
1	Arteriography and angiocardiology (11,678)	Repair of obstetric laceration (5,755)	Arteriography and angiocardiology (7,041)
2	Repair of obstetric laceration (5,755)	Arteriography and angiocardiology (4,637)	Cardiac catheterization (3,036)
3	Cardiac catheterization (4,919)	Cesarean section (3,728)	Respiratory therapy (2,411)
4	Diagnostic ultrasound (4,895)	Diagnostic ultrasound (2,644)	Diagnostic ultrasound (2,251)
5	Endoscopy of small intestine (4,724)	Endoscopy of small intestine (2,590)	Endoscopy of small intestine (2,134)
6	Respiratory therapy (4,652)	Respiratory therapy (2,240)	Balloon angioplasty (1,810)
7	Cesarean section (3,728)	Hysterectomy (1,994)	Insertion of coronary artery stent(s) (1,713)
8	Endoscopy of large intestine (2,761)	Cardiac catheterization (1,883)	Coronary artery bypass graft (1,439)
9	Balloon angioplasty (2,694)	Medical induction of labor (1,857)	Hemodialysis (1,337)
10	Insertion of coronary artery stent(s) (2,561)	Endoscopy of large intestine (1,655)	Endoscopy of large intestine (1,106)

Some names of procedure groups have been shortened; full names are: Arteriography and angiocardiology using contrast material, Repair of current obstetric laceration, Endoscopy of small intestine with or without biopsy, Endoscopy of large intestine with or without biopsy, Balloon angioplasty of coronary artery or coronary atherectomy.

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Rhode Island Department of Health
Office of Health Statistics
3 Capitol Hill
Providence, RI 02908

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